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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/754,767	01/08/2004	Kyung-Hoon Park	P/923-375	8717
2352	7590	08/10/2005	EXAMINER	
OSTROLENK FABER GERB & SOFFEN 1180 AVENUE OF THE AMERICAS NEW YORK, NY 100368403			CANNING, ANTHONY J	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/754,767

Applicant(s)

PARK, KYUNG-HOON

Examiner

Anthony J. Canning

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 14 and 15 is/are rejected.
- 7) ☒ Claim(s) 12 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-3, 6-11, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horibe et al. (U.S. 2003/0178941 A1) in view of MacLennan et al. (U.S. 5,903,091).
4. As to claim 1, Horibe et al. disclose a lamp comprising: a bulb portion (see Fig. 1, item 21; paragraph 0024) forming a filling space inside to be charged with a gas-fill (paragraph 0005;

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here a liquid is vaporized into a gas) a stem portion extending from the bulb portion to a predetermined length to become a rotational shaft of the bulb portion (see Fig. 1, item 22; paragraph 0024); and a protruding portion protruding from an inner circumference of the bulb portion (see Fig. 1, items 23; paragraph 0025). Horibe et al. fail to disclose that the bulb is transparent, and electrodeless with a gas-fill generating plasma.

MacLennan et al. disclose an electrodeless lamp with a transparent bulb (column 4, lines 54-55) and gas-fill generating plasma (column 3, lines 60-67; column 4, lines 1-21). A transparent bulb will provide greater light output, and MacLennan et al. disclose that an electrodeless lamp with a gas-fill generating plasma lowers the power used (column 1, lines 54-67).

Therefore, it would have been obvious to one having ordinary skill in the art, at the time the invention was made, to modify the lamp of Horibe et al. to include that the lamp is electrodeless, and has a transparent bulb with a gas-fill generating plasma, as taught by MacLennan et al., for the benefit of improved brightness and lower power consumption.

5. As to claim 2, Horibe et al. and MacLennan et al. disclose the electrodeless lamp of claim

1. Horibe et al. further disclose that the protruding portion comprises a pair of protrusions protruding from the inner circumference of the bulb portion (see Fig. 1, the top and bottom portion of the bulb).

6. As to claim 3, Horibe et al. and MacLennan et al. disclose the electrodeless lamp of claim

1. Horibe et al. further disclose that the protruding portion comprises at least two protrusions protruding from the inner circumference of the bulb portion (see Fig. 1, the top and bottom portion of the bulb).

7. As to claim 6, Horibe et al. and MacLennan et al. disclose the electrodeless lamp of claim 1. Horibe et al. further disclose that the protruding portion is formed like a ring figure protruding from the inner circumference of the bulb portion with uniform width and height (see Fig. 1, item 23; paragraph 0025).

8. As to claim 7, Horibe et al. and MacLennan et al. disclose the electrodeless lamp of claim 6. Horibe et al. further disclose that the ring figure lies vertical to an axis extending from the same axis of the stem portion (see Fig. 1, items 23; if the bulb is turned on its side and the horizontal axis runs through the stem portion the rings lie on vertical axis with respect to the horizontal axis).

9. As to claim 8, Horibe et al. and MacLennan et al. disclose the electrodeless lamp of claim 1. MacLennan et al. further disclose that the bulb portion has a spherical figure and is uniform in thickness (see Fig. 2, column 4, lines 54-55; the bulb in figure 2 has a uniform thickness). The shape of spherical bulbs is useful in lamps, which are manufactured to house bulbs of that shape.

Therefore, it would have been obvious to one having ordinary skill in the art, at the time the invention was made, to modify the lamp of Horibe et al. to include that the lamp has a spherical bulb, as taught by MacLennan et al., to produce bulbs that fit into lamps requiring spherical bulbs.

10. As to claim 9, Horibe et al. and MacLennan et al. disclose the electrodeless lamp of claim 1. Horibe et al. further disclose that the bulb portion has an oval figure and is uniform in thickness (see Fig. 1, the bulb portion is oval in shape and is even in thickness).

11. As to claim 10, Horibe et al. and MacLennan et al. disclose the electrodeless lamp of claim 9. Horibe et al. further disclose that the long axis of the oval bulb portion lies in the same

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line where the stem portion lies (see Fig. 1; the long axis of the bulb runs through the stem portion).

12. As to claim 11, Horibe et al. and MacLennan et al. disclose the electrodeless lamp of claim 1, wherein the protruding portion comprises a pair of protrusions protruding to confront each other to lie on a vertical line to an axis extending from the same axis of the stem portion (see Fig. 1; if the horizontal axis runs through the stem portion then the pair of protrusions are located on vertical axis off of the horizontal axis).

13. As to claim 14, Horibe et al. and MacLennan et al. disclose the electrodeless lamp of claim 1, wherein the protruding portion is formed of the same material of the bulb portion (see Figs. 5-7; paragraphs 0029-0032; the manufacturing of the bulb involves making a slurry which is molded around something with the mirror shape of its interior; therefore the protrusions are formed of the same material as the bulb).

14. Claims 4, 5, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horibe et al. (U.S. 2003/0178941 A1) in view of MacLennan et al. (U.S. 5,903,091) and in further view of Haacke et al. (U.S. 6,815,889 B2).

15. As to claim 4, Horibe et al. and MacLennan et al. disclose the electrodeless lamp of claim 3. Horibe et al. and MacLennan et al fail to disclose that the protrusions are vertical to an axis extending from the same axis of the stem portion and lie in the same line on the inner circumference forming a greatest circle.

Haacke et al. disclose a lamp with a bulb wherein the protrusions are vertical to an axis extending from the same axis of the stem portion and lie in the same line on the inner

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circumference forming a greatest circle (see Fig. 5, item 11; column 5, lines 56-63; column 7, lines 14-24). Haacke et al. further disclose that the protrusions form reservoirs for collecting the light-generating substance when the lamp is in the off state (column 6, lines 9-13).

Therefore, it would have been obvious to one having ordinary skill in the art, at the time the invention was made, to modify the lamp of Horibe et al. to include that the protrusions are vertical to an axis extending from the same axis of the stem portion and lie in the same line on the inner circumference forming a greatest circle, as taught by Haacke et al., for the added benefit of forming reservoirs on either side of the protrusion for collecting light-generating material when the lamp is in the off state.

16. As to claim 5, Horibe et al., MacLennan et al., and Haacke et al. disclose the electrodeless lamp of claim 4. Horibe et al. further disclose that the protrusions are provided by pairs (see Fig. 1, items 23).

17. As to claim 15, Horibe et al. disclose a lamp comprising: a bulb portion (see Fig. 1, item 21; paragraph 0024) forming a filling space inside to be charged with a gas-fill (paragraph 0005; here a liquid is vaporized into a gas) a stem portion extending from the bulb portion to a predetermined length to become a rotational shaft of the bulb portion (see Fig. 1, item 22; paragraph 0024); and a pair of protrusions lying in the same line on an inner circumference (see Fig. 1, item 23; the protrusions lie have the same axis running between them). Horibe et al. fail to disclose the bulb is transparent, and electrodeless with a gas-fill generating plasma, and that the protrusions are formed on a greatest diameter of the bulb portion vertical to an axis extending from the same axis of the stem portion.

MacLennan et al. disclose an electrodeless lamp with a transparent bulb (column 4, lines 54-55) and gas-fill generating plasma (column 3, lines 60-67; column 4, lines 1-21). A transparent bulb will provide greater light output, and MacLennan et al. disclose that an electrodeless lamp with a gas-fill generating plasma lowers the power used (column 1, lines 54-67).

Haacke et al. disclose a lamp with a bulb wherein the protrusions are vertical to an axis extending from the same axis of the stem portion and lie in the same line on the inner circumference forming a greatest circle (see Fig. 5, item 11; column 5, lines 56-63; column 7, lines 14-24). Haacke et al. further disclose that the protrusions form reservoirs for collecting the light-generating substance when the lamp is in the off state (column 6, lines 9-13).

Therefore, it would have been obvious to one having ordinary skill in the art, at the time the invention was made, to modify the lamp of Horibe et al. to include that the lamp is electrodeless, has a transparent bulb with a gas-fill generating plasma, as taught by MacLennan et al., for the benefit of improved brightness and lower power consumption, and that the protrusions are vertical to an axis extending from the same axis of the stem portion and lie in the same line on the inner circumference forming a greatest circle, as taught by Haacke et al., for the added benefit of forming reservoirs on either side of the protrusion for collecting light-generating material when the lamp is in the off state.

Allowable Subject Matter

18. Claims 12 and 13 contain allowable subject matter.

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The following is a statement of reasons for the indication of allowable subject matter.

19. As to claim 12, the prior art of record fails to teach or suggest an electrodeless lamp wherein the ratio of (L1/L2) of a length (L1) between ends of the protrusions over an inside diameter (L2) of the bulb portion is 1/1.3.

20. As to claim 13, the prior art of record fails to teach or suggest an electrodeless lamp wherein each width of the protrusions is $L2/8 \sim L2/6$ for the inside diameter (L2) of the bulb portion.

21. Claims 12 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior Art

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Honda et al. (U.S. 2003/0076041) teach a spherical lamp bulb with protrusions around the inner circumference of the gas discharge area.

Contact Information

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony J. Canning whose telephone number is (571)-272-2486.

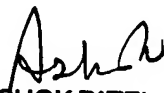
The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh D. Patel can be reached on (571)-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anthony Canning

5 August 2005


ASHOK PATEL
PRIMARY EXAMINER